

National Space Weather Program Update and Future

FCMSSR, 2004 December 1

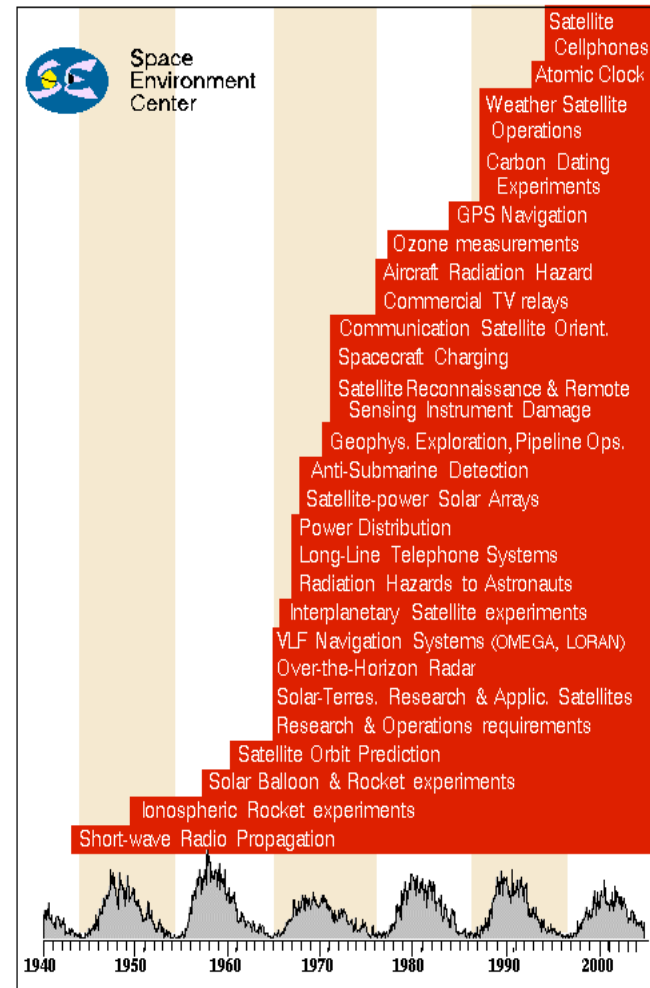
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Customers

- Ever more customers
- Use of technology makes society more vulnerable
- Once vulnerable, always vulnerable

Growth of Space Weather Customers



Who Cares? Benefits to Society



Satellites

Navigation

Airlines

Astronauts in Space

Communication

Electric Power



NSWP Agencies

- NASA Co-chair
- NSF Co-chair
- DOC/NOAA Co-chair
- DOD/USAF and Navy, primarily Co-chair
- DOI/USGS
- DOE
- DOT/FAA (from 1999)

Note: Unlike some other OFCM programs, NSWP is not funded *per se*; it is a confederation of agencies coordinating their space weather activities as funding allows



Important Dates

- 1965 Daily civilian services begin
- 1995 NSWP Strategic Plan
- 1997 NSWP Implementation Plan
- 1999 National Security Space Architect report; starts from NSWP vision
- 2000 NSWP Implementation Plan, revised
- 2001 USAF moves services to Omaha

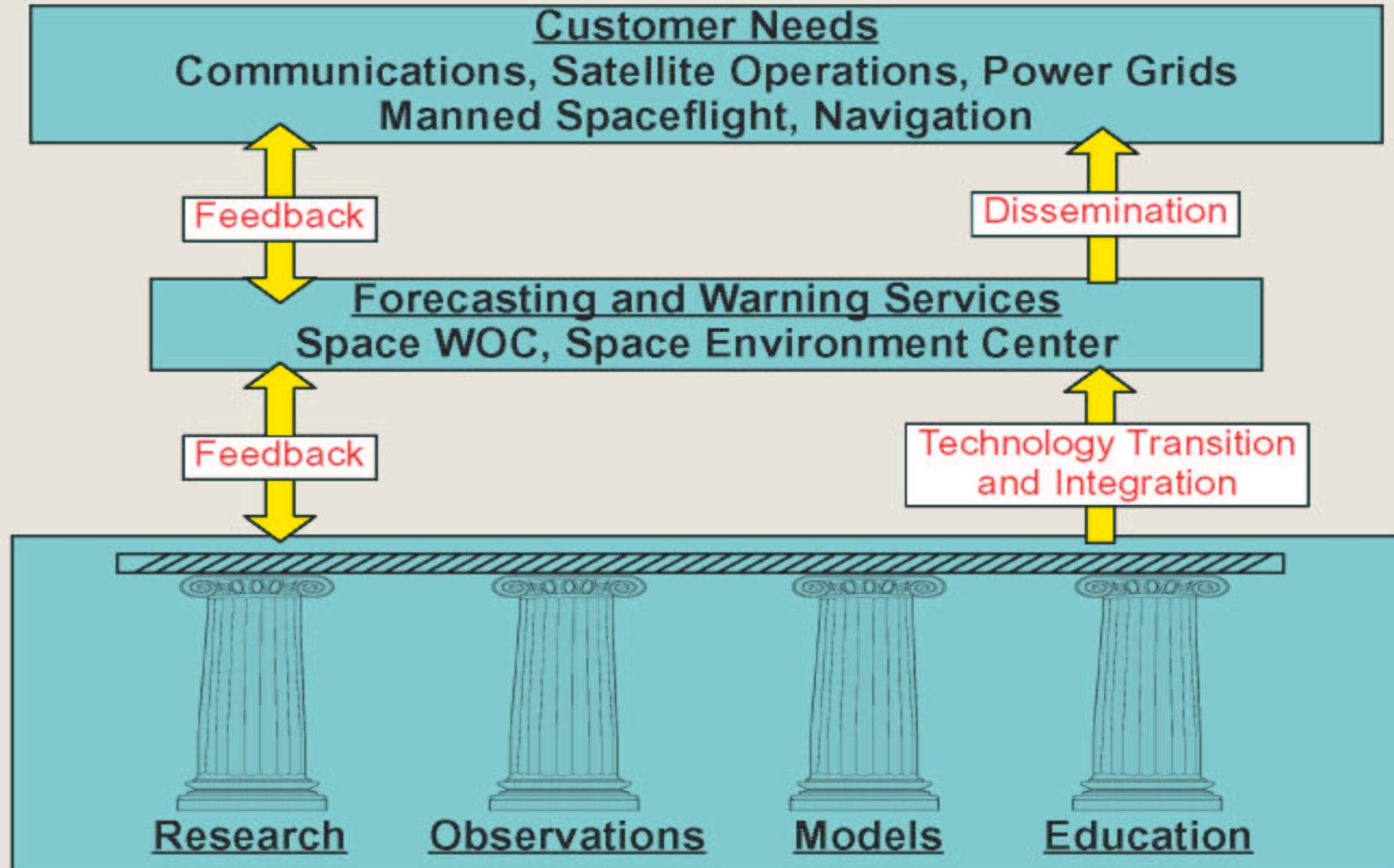


Important Dates

- 2002 NRC Decadal Survey; recommends that US space weather should be strengthened
- 2004 President announces Exploration Initiative to Mars
- 2005 NOAA's National Weather Service assumes civilian space weather services
- 2005 10th anniversary of NSWP; 40th anniversary of daily civilian services



National Space Weather Program COMPONENTS



NSWP Success - 1

- Annual Space Weather Week meeting –250-300 users, government and service providers, and researchers (will be emulated by ESA)
- American Geophysical Union's *Space Weather* quarterly journal, similar to AMS' *BAMS*, from 2003
- NSF's annual space weather grants competition, partial support from DOD
- Community Coordinated Modeling Center at NASA/GSFC with NASA, DOD, and NSF support
- DOD, NASA, NSF, and NOAA coordinate their increased research efforts in space weather



NSWP Success - 2

- NSF Science and Technology Center funded: Center for Integrated Space Weather Modeling (CISM)
- NASA's Living with a Star missions approved
- ★ • Responding to customer needs and new capabilities, new products from NOAA Space Environment Center and AFWA (ionospheric, energetic particles, solar)
- Space weather services industry developing
- Much greater appreciation of the effects of space weather and greater use of space weather services



Preliminary Assessment

- Considerable success and achievement in first 10 years
- Demand for space weather services continues to grow; understanding and capabilities grow also
- NSWP will continue to coordinate space weather research and services



NSWP Future

- NSWP will conduct a review of the Program
 - Where do we stand after 10 years?
 - What new directions and Program mechanisms are appropriate in light of:
 - NSWP successes and shortcomings;
 - the evolution of customer needs;
 - achieved and expected agency and commercial capabilities;
 - likely available funding in agencies.

